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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,435	06/16/2006	Gervin Ruegenberg	067407-5043US	1283
67374 7590 11/06/2007 MORGAN, LEWIS & BOCKIUS, LLP ONE MARKET SPEAR STREET TOWER SAN FRANCISCO, CA 94105			EXAMINER CYGAN, MICHAEL T	
			ART UNIT 2855	PAPER NUMBER
			MAIL DATE 11/06/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

X

<b>Office Action Summary</b>	<b>Application No.</b> 10/583,435	<b>Applicant(s)</b> RUEGENBERG ET AL.	
	<b>Examiner</b> Michael Cygan	<b>Art Unit</b> 2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-14 and 16-18 is/are rejected.
- 7) ☒ Claim(s) 8 and 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 11/14/2006.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

Claim 6 is objected to because of the following informalities: the word "is" in line 2 should be "in". Appropriate correction is required.

Claim 11 is objected to since it is not understood how the resistance "always exhibit the same temperature".

No claim 10 exists. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 11-19 been renumbered 10-18.

### ***Drawings***

New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because Figure 4 has a caption not in the English language. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The

corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 9, 10-14, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weissgerber (US 6,627,075 B1) in view of Gosger (WO 03/066264 A). Weissgerber teaches the claimed invention, a method to supply a defined fluid flow to a liquid chromatograph [29], in which:

- a) the total flow is split into two branches (Figure 3, at node 33),
- b) the split ratio is determined by the resistances of fluidic resistors 66 and 67,
- e) the working branch comprises a chromatography column 29 downstream from resistor 63,
- f) the excess branch comprises an adjustable resistance [45,46] downstream from resistor 67,
- g) where the resistance flow is controlled using the four resistances as a bridge, where the adjustable resistance is used to balance the flow through the bridge; see column 8 lines 8-29.

Weissgerber teaches the claimed invention except for the use of a cross-branch measuring cross-flow with a flow sensor, where the flow is near zero. Gosger teaches the use of a cross-branch measuring cross-flow with a flow sensor, where the flow is near zero, where the result of the flow sensor is used to adjust the balance flow. See Figure 1 showing crossbranch [7], flowmeter [18] in a bridge resistance flow stabilizer; see paragraph 0055 (of the US 2005/0092609 document supplied by applicant as substantially cumulative of the WO 03/066264 document, IDS 11/24/2006 page 3). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the use of a cross-branch measuring cross-flow with a flow sensor, where the flow is near zero where the pre-balanced flow is set at an unbalanced state (paragraph 055 of Gosger) as taught by Gosger in the invention taught by Weissgerber to measure the relative flows through the bridge (in the place of Weissgerber's pressure sensors), since Gosger teaches that such measurement minimizes the effects of pressure and flow fluctuations (para 0045).

With respect to claim 2, while Gosger teaches a nonzero flow set point (paras 0055-0057), Gosger does not teach the flow being either positive or negative. As stated by the Supreme Court in *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007), "it will be necessary . . . to look to interrelated teachings of multiple patents . . . and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patents at issue." *KSR Int'l*, 127 S. Ct. at 1740, 1742. As restated in *Astrazeneca AB v. Mylan Labs, Inc.*, 490 F. Supp.2d 381, 401

(SDNY 2007), the “person of ordinary skill in the art will ‘pursue the known options’ where there are a ‘finite number of identified, predictable solutions’ to a particular problem because a person of ordinary skill is ‘a person of ordinary creativity, not an automaton’.” (quoting *KSR Int’l*, 127 S. Ct. at 1742). The references above identify a finite number of flow directions; the flow may be either positive or negative through the branch. Therefore, one having ordinary skill in the art would have found it obvious to set a positive flow set point value.

With respect to claims 3, 4, and 12, the controller 75 of Weissgerber corrects the flow through each branch of the bridge to reach the flow corresponding to a desired flow set point (column 7, lines 14-24; column 8, lines 8-28) by a controller via a correction parameter [77].

With respect to claims 5 and 16, a lookup table is used to correct the sensor signal (column 9 lines 44-49).

With respect to claims 6 and 7, the pre-balanced flow is set at an unbalanced state differing from the set point state (paragraph 055 of Gosger).

With respect to claim 10, the fluidic resistances are designed to process solvents prior to chromatography, therefore it would have been obvious to one having ordinary skill in the art to minimize the pre-column separations, since chromatographic analysis relies upon accurate, predictable separation of substances in a sample, particularly since it has been held that discovering an optimum value of a result effective variable (fluidic solvent resistance) involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

With respect to claim 11, both resistances are exposed to the same environment and would therefore exhibit the same temperature.

With respect to claims 14 and 18, the lines leading to resistance element 45 form a non-adjustable resistance, that will form the resistance value when the resistance element is completely open (column 7, lines 14-23).

### ***Allowable Subject Matter***

Claims 8 and 15 (as renumbered) are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, since the prior art neither discloses nor fairly teaches the steps recited therein in combination with the other limitations of the claims.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Cygan whose telephone number is (571) 272-2175. The examiner can normally be reached on 8:30-5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
MICHAEL CYGAN, PH.D.  
PRIMARY EXAMINER